

# **METHOD OF MANUFACTURING EXPANSILE FILAMENTOUS EMBOLIZATION DEVICES**

## **ABSTRACT OF THE DISCLOSURE**

An embolization device for occluding a body cavity includes one or more elongated, 5  
expansible, hydrophilic embolizing elements non-releasably carried along the length of an  
elongated filamentous carrier that is preferably made of a very thin, highly flexible filament or  
microcoil of nickel/titanium alloy. At least one expansile embolizing element is non-releasably  
attached to the carrier. A first embodiment includes a plurality of embolizing elements fixed to  
the carrier at spaced-apart intervals along its length. In second, third and fourth embodiments, an  
10 elongate, continuous, coaxial embolizing element is non-releasably fixed to the exterior surface  
of the carrier, extending along a substantial portion of the length of the carrier proximally from a  
distal tip, and optionally includes a luminal reservoir for delivery of therapeutic agents. Exem-  
plary methods for making these devices include skewering and molding the embolizing elements.  
In any of the embodiments, the embolizing elements may be made of a hydrophilic, macro-  
15 porous, polymeric, hydrogel foam material. In the second, third and fourth embodiments, the  
elongate embolizing element is preferably made of a porous, environmentally-sensitive,  
expansile hydrogel, which can optionally be made biodegradable and/or bioresorbable, having a  
rate of expansion that changes in response to a change in an environmental parameter, such as the  
pH or temperature of the environment.